

**ABSTRACT**

5 A method and semiconductor device for detecting a heat generating failure in an unpassivated semiconductor device. The semiconductor device has an unpassivated surface and a heat generating failure, e.g., short circuit. A coating may be applied to the unpassivated surface of the semiconductor device. The coating may be non-electrically conducting and capable of localizing heat generated by the failure in a particular area. The semiconductor device may be biased. The failure may then be detected by detecting a location of the heat generated by the failure in the coating.

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